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CUSTOMER NO.: 24498
Serial No.: 10/537,463
Notice of Appeal dated: 04/22/09
Appeal Brief dated: 06/16/09

PATENT
PF020159

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Before The Board Of Patent Appeals and Interferences

In re Application of: Nicolaas Damstra et al.	§	
Serial No.: 10/537,463	§	**Group Art Unit: 2621**
Confirmation No.: 4725	§	**Examiner: Oluwaseun Adegeye**
Filed: June 03, 2005	§	
For: Method for recording data, method for retrieving sets of data, data file, data structure and medium carrying such data	§	

CERTIFICATE OF TRANSMISSION

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Joan Sanders

APPEAL BRIEF

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May It Please The Honorable Board:

Appellants submit this Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 2621 dated December 19, 2008, finally rejecting claims 1-10.

Please charge the $540 fee for the filing of the Appeal Brief, and any other fees that may be due, to Deposit Account No. 07-0832.

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Real Party In Interest

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Related Appeals and Interferences

Appellants assert that no other appeals or interferences are known to the Appellants, the Appellants' legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

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Status of Claims

Claims 1-10 were presented with the originally filed Application. The Appellants' claims 1, 4-6 and 8 were amended in a Response dated September 26, 2008 in response to an Office Action dated August 29, 2008. All other claims were unamended.

In the Appellants' application, the Appellants' claims 1-10 stand finally rejected under 35 U.S.C. § 102(e) as being anticipated by Chadwick (U.S. Patent No. 7,149,750).

The claims on appeal are the Appellants' claims 1-10 as first presented in the Response dated September 26, 2008. That is, the claims on appeal are the Appellants' claims 1-10, which are listed in the attached Claims Appendix.

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Status of Amendments

A Preliminary Amended was filed with the original Application amending the Appellants' claims 1, 4, 6 and 8 to correct formal errors.

A first Response was filed on September 26, 2008 to attempt to overcome a First Office Action dated August 29, 2008. In the First Office Action, the Examiner rejected the Appellants' claims 1-10 under 35 U.S.C. § 102(e) as being anticipated by Chadwick (U.S. Patent No. 7,149,750). In the response filed on September 26, 2008, the Appellants amended claims 1, 4-6 and 8 and set forth arguments traversing the rejections issued by the Examiner and distinguishing the Appellant's invention over the cited prior art.

The Examiner responded to the Appellants' response of September 26, 2008 with a Final Office Action dated December 19, 2008. In the Final Office Action, the Examiner again rejected the Appellants' claims 1-10 under 35 U.S.C. § 102(e) as being anticipated by Chadwick.

In response to the Final Office Action dated December 19, 2008, the Appellants submitted a Response dated February 20, 2009. In the Response dated February 20, 2009, the Appellants set forth arguments traversing the rejections issued by the Examiner and distinguishing the Appellant's invention over the cited prior art.

The Examiner responded to the Appellants' response of February 20, 2009 with an Advisory Action dated April 2, 2009. In the Advisory Action, the Examiner indicated that the Appellants' Response of February 20, 2009 failed to place the Application in condition for allowance and maintained the rejections of the Final Office Action dated December 19, 2008.

In response to the Advisory Action dated April 2, 2009, the Appellants submitted a Notice of Appeal dated April 22, 2009.

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Summary of Claimed Subject Matter

Embodiments of the Appellants' invention provide a method for recording data including recording a data container having a given container length, recording a key indicative of a back-pointer, recording a length indicator and recording a value indicative of the container length. The Appellants teach that in an alternate embodiment, the method can further include one or both steps including recording the length indicator and recording the key indicative of the back-pointer.

The recording method of the Appellants' invention allows to easily read backwards the sets of data. The Appellants further teach and claim a method for retrieving sets of data on a medium in an order opposite to the recording order including accessing a first set of data, accessing a key indicative of a back-pointer, reading a value indicative of a container length and accessing a second set of data using the value. The Appellants teach that various embodiments of the invention, the sets of data are KLV encoded.

In an alternate embodiment, the Appellants teach and claim a data file having successive blocks, each block including a data container having a container length, a back-pointer key, a length indicator, a value indicative of the container length, and a medium carrying such a data file. In an alternate embodiment, the Appellants further teach and claim a data structure having a data container, a back-pointer key, a length indicator, and a value indicative of the length of the data container. The Appellants teach that in various embodiments, the data structure has one or both the length indicator and the back-pointer key. The Appellants further teach that because of the back-pointer item located immediately after the data container and indicating its length, jumping from the end of the data container (*i.e.* the beginning of the following data container) to the beginning of the data container is fast and simple, which makes it possible to easily read backwards in the file.

As suggested in MPEP 1206, the Appellants now read at least two of the broadest appealed claims on the specification and on the drawings. It should be understood, however, that the appealed claims may read on other portions of the specification or other figures that are not listed below.

The Appellants' Specification specifically refers to Figure 1 for teaching an embodiment of a data structure of the Appellants' invention which can be used for

recording essence data where the number of bytes per container can vary. For instance, the essence is a set of frames of compressed video data having unequal length. The Appellants teach that in such an application, the data structure of Figure 1 is used by a video recorder when recording a video sequence. This data structure is used in a similar fashion by a video player reproducing the video sequence.

The Appellants teach that each frame of the video sequence is KLV encoded and as such is therefore described by a key field K_e indicating these data are video data, *e.g.* MPEG encoded video data, a length field L_e indicating the length of these video data and a value field V_e containing the video data (essence). After each frame of the set, a back-pointer KLV item is inserted. This back-pointer KLV item is a relative pointer to the beginning of the preceding frame (*i.e.* to the preceding data container). Its function is indicated by its key K_{bp} and its value V_{bp} is indicative of the length of the preceding video frame (or more generally speaking of the preceding data container). The Appellants teach that ,for instance, its value is the length l_e of the KLV coded item representing the frame ($V_{bp} = l_e$). As a possible variation, the total (cumulated) length l_i of the essence KLV item and the back-pointer KLV item could be used instead.

The Appellants teach that as usual, the length field L_{bp} represents the length of the value field V_{bp} and that a convenient solution is to have a fixed length L_{bp} for the back-pointer item, but a varying length is also possible. The Appellants teach that when recording 3 frames F1, F2 and F3, a video recorder using the data structure of Figure 1 will record the following sequence:

$$K_e\ L1\ F1\ K_{bp}\ L_{bp}\ l_1\ K_e\ L2\ F2\ K_{bp}\ L_{bp}\ l_2\ K_e\ L3\ F3\ K_{bp}\ L_{bp}\ l_3,$$

where Li is the length of the coded data Fi and l_i is the length of the KLV item (K_e Li Fi) containing the coded data Fi. The Appellants teach that these sets of data can be easily retrieved by a video player in a forward and in a backward direction in accordance with the invention of the Appellant. That is, when the video player reads the sets in a forward direction (*i.e.* in the same direction as the sets were recorded), the KLV structure of the file makes it easy to skip items and that the back-pointers KLV items can easily be skipped by using their length field L_{bp}.

The Appellants teach that the video player can also read the sets in the backward direction. That is, assuming the KLV item representing frame F3 is currently accessed, access to the preceding back-pointer KLV item K_{bp} L_{bp} l_2 is immediate when the length L_{bp} is fixed. By reading the value l_2 of the back-pointer KLV item, the video player can then immediately access the preceding KLV item representing frame F2 by jumping l_2 bytes backwards. The video player can then either read the content of KLV item K_e L2 F2 in order to decode frame F2 or immediately jump backwards to frame F1 by the similar use of the back-pointer item K_{bp} L_{bp} l_1.

The Appellants teach that because of the use of the back-pointer items as taught and claimed by the Appellants, fast jumping from frame to frame backwards is made possible, with the option each time to decode the frame or not. Back-pointer items are therefore particularly useful to allow a fast-backward mode displaying only some of the encountered pictures. The Appellants note that the back-pointers provide this advantage even when their length L_{bp} is not fixed. In this case, the preceding back-pointer KLV item can be accessed by searching backwards for the key K_{bp}. This is of course much faster than searching backwards for the preceding essence key K_e as the back-pointer KLV item is much shorter than the frame (essence) KLV item.

The Appellants teach that it is also possible to code the back-pointer with KLVL coding or KLVLK coding. As explained, this type of coding of the Appellants' invention allows to read the item in the forward and in the backward direction. The Appellants teach that in the above example, the use of a back-pointer item has been described in association with essence data but that, of course, such a back-pointer item can similarly be used with metadata or any other types of data.

The Appellants refer to Figure 2 for providing an example of the use of a back-pointer item associated with metadata. The Appellants teach that a set of k metadata V_1, ..., V_k are KLV coded and combined as the value field V_m of a KLV item generally denominated "metadata set KLV item". The metadata set item has a specific key field K_m and a length field indicating the length of the value field V_m. A back-pointer KLV item $K_{bp}L_{bp}V_{bp}$ immediately follows the metadata set KLV item $K_mL_mV_m$. The key K_{bp} indicates that the present KLV item is a relative pointer to the start of the preceding KLV item (or data container), here to the start of the metadata

set. The length field L_{bp} indicates the length of the value field V_{bp}, which is in turn indicative of the length l_m of the preceding KLV item, here the metadata set.

The Appellants teach that when the data are recorded as represented from left to right (forward direction) on Figure 2 by a recorder, the data can easily be accessed (and possibly read) by a player both in the forward and in the backward direction. More specifically, in the forward direction, K_m is first accessed, informing the player that the accessed set of data is a metadata set and that the player can either use the following length field L_m in order to skip the metadata set, or read the value field V_m in order to actually access one or several metadata.

If the metadata set is skipped, the player finds the back-pointer KLV item, identifies it as such thanks to its key K_{bp} and skips it thanks to the length field L_{bp}. On the other hand, if the value field V_m is actually read, the player can easily access the metadata V_1, ..., V_k one by one in the forward direction thanks to their KLV structure. Then, the player accesses the back-pointer KLV item and skips it.

The Appellants teach that in the backward direction, the player has to identify which data compose the back-pointer item and that a convenient solution is to decide beforehand that back-pointer items have a fixed length. The player can, in this case, go this fixed length in the backward direction and thus access key K_{bp}. The Appellants further teach that, even in cases where the length of the back-pointer item may vary, the player can easily access the key K_{bp} by seeking it backwards but that it is, of course much faster, much easier and much more reliable to seek for a given key (K_{bp}) backwards than to try to read the metadata set backwards (which would consist in seeking every possible key in a larger amount of data, knowing that new metadata with corresponding new key can be introduced).

The Appellants further teach that when the back-pointer item is identified, its value field V_{bp} is read with the value l_m and the player consequently jumps l_m bytes backwards, thereby immediately accessing the metadata set KLV item $K_mL_mV_m$. The player can then either read the metadata set item to acquire some of the metadata (in the forward direction, as explained above), or ignore the metadata set and continue reading backwards accessing to a new back-pointer item as K_{bp} L_{bp} l_3 on Figure 1.

The Appellants teach that as a possible alternative to Figure 2, the back-pointer item $K_{bp}L_{bp}V_{bp}$ could be considered as part of the metadata set $K_mL_mV_m$. The

principles of operation would remain the same, both in the forward and in the backward direction. The Appellants teach that in this case however, if the value field V_{bp} still represents the length of the whole metadata set item, the player has to deduce the length of the back-pointer item itself from the value V_{bp} before jumping backwards. Other variations are workable as long as the value field V_{bp} is indicative of the byte length between the start of the data container (here key K_m) and the back-pointer item (key K_{bp}).

The Appellants teach that although the back-pointer item has been designed in the previous example to jump backwards over a whole metadata set, it is naturally possible to provide back-pointer items to jump backwards over subsets of metadata within the metadata set. That is, Figure 1 and Figure 2 propose the use of a back-pointer item to greatly simplify backwards reading of a set of data, notably KLV coded data in an MXF file.

The Appellants teach however, that advantageously, a header of this file has a flag (*e.g.* a bit) indicating whether or not back-pointer items are used in the file or not. Other information, as for instance the use of KLVL or KLVLK coding, or the fixed length of the back-pointer item (if existing), could also be included in the file header. The header can be attached as metadata to the file.

The Appellants further teach a description of KLVL coding and KLVLK coding which are also proposed by the invention and that although they preferably apply to back-pointer items only as in the above description, they could apply to any kind of data.

That is, the Appellants refer to Figure 3 for teaching an embodiment of KLVL coding of several metadata items given as an example of KLVL coding. Each item represents a given information (or parameter) having a value Vi. In order to be transported and retrieved, each set of data is encapsulated as described below. A key Ki (*e.g.* coded on 16 bytes) is determined to indicate which kind of information is represented by the item. The length (*e.g.* in bytes) of data representing the information or value Vi is also determined as length indicator Li (*e.g.* coded on 4 bytes).

The Appellants teach that in one embodiment, when recording the metadata, the recorder writes for each item the following sequence (in the indicated order) : Ki Li Vi Li. With the above-byte-length example, the sequence Ki Li Vi Li is (24+Li)-

byte-long. The Appellants teach that in the example depicted on Figure 3, the 3 following pieces (items) of metadata information are considered :

- title of the recording (key K1) coded on 256 bytes (L1 means 256) defined in data V1;

- video compression technique (key K2) coded on 2 bytes (L2 means 2) defined in data V2;

- duration of the recording in seconds (key K3) coded on 4 bytes (L3 means 4) defined in data V3.

The Appellants teach that the video recorder will record these metadata according to the following sequence : K1L1V1L1K2L2V2L2K3L3V3L3 as illustrated on Figure 3. The Appellants teach that the metadata are written included in a larger structure as provided by the Material eXchange Format, for instance as described in patent application WO 02 / 21 845 but that, however, in various embodiments, KLV coding is replaced by KLVL coding for some items at least such that when another machine reads the file, the metadata can be accessed.

The Appellants further teach that if the audio-video file is read in the forward direction (*i.e.* in the same direction as when recorded), key K1 is first read, then length L1 is read allowing to determine the byte length of data V1 and thus to read value V1. The 4 bytes (L1) following V1 are ignored and K2 can be accessed and that further retrieval of metadata can be made in a similar fashion. If the audio-video file is read in the backward direction, length L3 is first accessed. This gives immediately the length of bytes to be read as value V3. Once V3 is read, the following 4 bytes in backward direction (also representing L3) are ignored and K3 is then accessed. V3 and K3 are thus immediately determined when reading backwards without the need for an index table.

The Appellants teach that further retrieval of metadata in the backward direction carries on with the same simple scheme : L2 is read, thereby giving the possibility to read V2 ; the occurrence of L2 between V2 and K2 is ignored and K2 is read. Lastly, L1 is read, thereby giving immediate access to value L1 and by skipping the 4 bytes of L1 to key K1. As shown by this example, KLVL coding allows easy retrieval of the encapsulated data (V) when the KLVL sequence is read either in the forward or in the backward direction.

The Appellants teach that as a possible variation, when reading the length indicator field L for a second time (either in the forward or in the backward direction), it can be compared to the first-read length indicator (instead of simply ignoring the second-read length indicator as described above). This allows to check if the file has the expected format and no errors, and whether the proposed algorithm to skip backwards data is still synchronised with the KLVL coding of the file. In a comparable way, KLVLK coding is obtained by recording an item Vi as the following sequence:

Ki Li Vi Li Ki .

The Appellants refer to Figure 4 for teaching KLVLK coding of several metadata items given as an example of KLVLK coding. Each item represents a given information (or parameter) having a value Vi and that in order to be transported and retrieved, each set of data is encapsulated. More specifically, a key Ki (*e.g.* coded on 16 bytes) is determined to indicate which kind of information is represented by the item and that the length (*e.g.* in bytes) of data representing the information or value Vi is also determined as length indicator Li (*e.g.* coded on 4 bytes). The Appellants teach that when recording the metadata, the recorder writes for each item the following sequence (in the indicated order): Ki Li Vi Li Ki. With the above-byte-length example, the sequence Ki Li Vi Li Ki is (40+Li)-byte-long.

In the example depicted on Figure 4, the 2 following pieces (items) of metadata information are considered:

- title of the recording (key K1) coded on 256 bytes (L1 means 256) defined in data V1;

- video compression technique (key K2) coded on 2 bytes (L2 means 2) defined in data V2.

As such, the Appellants teach that the video recorder will record these metadata according to the following sequence : K1L1V1L1K1K2L2V2L2K2 as illustrated on Figure 4. When another machine reads the file, the metadata can be accessed.

The Appellants teach that if the audio-video file is read in the forward direction (*i.e.* in the same direction as when recorded), key K1 is first read, then length L1 is read allowing to determine the byte length of data V1 and thus to read value V1.

The 20 bytes (L1K1) following V1 are ignored and K2 can be accessed. Further retrieval of metadata can be made in a similar fashion. However, if the audio-video file is read in the backward direction, key K2 is first accessed, then length L2 is read allowing to determine the byte length of data V2 and thus to read value V2. The further 20 bytes (L2K2) can be ignored. The Appellants teach that, further retrieval of metadata in the backward direction carries on with the same scheme. In fact, as recording is symmetrical with KLVLK coding, reading backwards uses the same algorithm as reading forwards and is therefore as simple as reading forwards.

The Appellants teach that as a possible variation, when reading the length indicator L and key K fields for a second time (either in the forward or in the backward direction), it can be compared to the first-read length and key indicators (instead of simply ignoring them as described above). This allows a check if the file has the expected format and no errors, and whether the proposed algorithm is still synchronised with the KLVLK coding of the file.

For the convenience of the Board of Patent Appeals and Interferences, the Appellants' pending claims are presented below in claim format with elements read on the appropriate citations to at least one portion of the specification for each element of the appealed claims.

Claim 1 positively recites:

> "1. Method for recording data, comprising the steps of:
> - recording a data container having a given container length;
> - recording a key indicative of a back-pointer;
> - recording a length indicator; and
> - recording a value indicative of the container length." (See Appellants' specification, page 2, lines 1-4 and page 3, lines 12-31).

Claim 2 positively recites:

> "2. Method according to claim 1, with the further step of:
> - recording the length indicator." (See Appellants' specification, page 2, line 6).

Claim 3 positively recites:

> "3. Method according to claim 2, with the further step of:

- recording the key indicative of the back-pointer." (See Appellants' specification, page 2, line 7).

Claim 4 positively recites:

"4. Method for retrieving sets of data on a medium in an order opposite to the recording order, comprising the steps of:
- accessing a first set of data;
- accessing a key indicative of a back-pointer;
- reading a value indicative of a container length; and
- accessing a second set of data using said value." (See Appellants' specification, page 2, lines 10-15 and page 6, lines 1-32).

Claim 5 positively recites:

"5. Method according to claim 4, wherein the sets of data are key-length-value (KLV) encoded." (See Appellants' specification, page 2, line 16 and page 3, line 19).

Claim 6 positively recites:

"6. Data file comprising successive blocks, each block comprising:
- a data container having a container length;
- a back-pointer key;
- a length indicator; and
- a value indicative of the container length." (See Appellants' specification, page 2, lines 17-22 and page 3, line 19 through page 4, line 2).

Claim 7 positively recites:

"7. Medium carrying a data file according to claim 6." (See Appellants' specification, page 2, line 23).

Claim 8 positively recites:

"8. Data structure comprising:
- a data container;
- a back-pointer key;
- a length indicator; and
- a value indicative of the length of the data container. (See Appellants' specification, page 2, lines 14-28 and page 3, line 12 through page 4, line 34)

Claim 9 positively recites:

"9. Data structure according to claim 8, further having:
- the length indicator." (See Appellants' specification, page 2, line 30).

Claim 10 positively recites:

"10. Data structure according to claim 9, further having:
- the back-pointer key." (See Appellants' specification, page 2, line 31).

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Grounds of Rejections to be Reviewed on Appeal

1. Whether the Appellants' claims 1-10 are patentable under 35 U.S.C. § 102(e) over Chadwick (U.S. Patent No. 7,149,750).

2. Pending claims 1-10 have been respectively grouped together by the Examiner in their rejection. The Appellants urge that each of the rejected claims stands on its own recitation, the claims being considered to be separately patentable for the reasons set forth in more detail *infra*.

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ARGUMENT

I. THE EXAMINER ERRED IN REJECTING CLAIMS 1-10 UNDER 35 U.S.C. § 102 AT LEAST BECAUSE THE CITED REFERENCE FAILS TO ANTICIPATE AT LEAST A METHOD AND APPARATUS INCLUDING AT LEAST "A KEY INDICATIVE OF A BACK-POINTER" AND"A VALUE INDICATIVE OF THE CONTAINER LENGTH".

A. 35 U.S.C. § 102(e) - Claim 1

The Examiner rejected the Appellants' claim 1 under 35 U.S.C. § 102(e) as being anticipated by Chadwick (U.S. Patent No. 7,149,750). The rejection is respectfully traversed.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrik Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1983)). (emphasis added). The Appellants submit that Chadwick fails to disclose each and every element of the Appellants' claimed invention arranged as in at least the Appellants' claim 1, which specifically recites:

> "Method for recording data, comprising the steps of:
> - recording a data container having a given container length;
> - recording a key indicative of a back-pointer;
> - recording a length indicator; and
> - recording a value indicative of the container length."

The Examiner alleges that Chadwick discloses "a key indicative of a back-pointer" as well as "a value indicative of the container length" and referred to col. 1, l. 26-32, col. 3, l. 60-61, col. 3, l. 63-67 and col. 5, l. 31-32 of Chadwick. The Appellants respectfully disagree that Chadwick describes "a key indicative of a back-pointer", respectively a "back-pointer key", in the cited sections or anywhere else. Further, no disclosure of "a value indicative of the container length" can be found in Chadwick.

In contrast to the invention of the Appellants, Chadwick describes MXF files wherein an MXF file has a file header that includes metadata providing information on the video content, also referred to as the "essence", which follows the file header. The MXF metadata is comprised of a plurality of objects that are encoded using the Key, Length, Value (KLV) coding scheme (Chadwick: col. 1, l. 21-26). According to

Chadwick, the key is a unique 16 byte universal label specified in the SMPTE Metadata dictionary. For additional details of KLV metadata Chadwick refers to the publication entitled "Material Exchange Format (MXF): MXF Generic Container Format (Proposed SMPTE Standard)", filename: mxf7b-p5-b1-gc.doc (Jul. 30, 2001) and the "Material Exchange Format (MXF): Format Specification (Proposed SMPTE Standard)" (Chadwick: col. 3, l. 60-62, and col. 3, l. 65 – col. 4, l. 5). Chadwick, however, remains silent regarding any extension of key specification beyond the SMPTE Metadata dictionary. Instead, definition of metadata objects according to SMPTE dictionary is stressed by Chadwick in col. 8, l. 54-56, once more.

But at the time the invention was made, the SMPTE Metadata dictionary did not specify any unique 16 byte universal label indicative of any pointer, particularly no label or

"key indicative of a back-pointer",

as claimed in at least the Appellants' claim 1, was specified by the SMPTE Metadata dictionary. Nor do any of the publications referred to by Chadwick specify any such pointer, particularly no back-pointer, indicating key as taught and claimed by the Appellants.

Thus, although Chadwick mentions KLV format as well as a pointer to extracted essence, Chadwick cannot suggest the format of the pointer as being compliant with KLV coding scheme due to the fact that KLV format as specified by Chadwick is not suited for carrying any kind of pointer. Chadwick further mentions a universal media identifier (UMID)/location table providing location of essence wherein fields in the UMID/location table include a key column comprising the UMID and location fields indicating the location universally, i.e., by a Universal Resource Locator (URL) or a Universal Resource Identifier (URI).

However, Chadwick does not mention any length indicator recorded in the UMID/location table. Further, Chadwick only describes universal (i.e., absolute) indication of a location. By contrast, the Appellants' invention as taught and claimed by at least the Appellants' claim 1, claims location in relative terms. Thus, even assumed that Chadwick would be suited for suggesting a pointer in a KLV format,

the suggested KLV-pointer would differ from the Appellants' claimed invention at least in that it would indicate location in absolute or universal terms.

The Appellants' claimed invention relates to KLV back-pointer items recorded behind data containers of variable length and allowing for quick access to said data containers. By recording KLV back-pointer items behind data containers, the Appellants' invention advantageously allows for back-pointing by help of the claimed

"recording a value indicative of the container length"

of at least claim 1 which results in a very compact relative representation of the back-pointer compared to universal location indication as taught in Chadwick.

The Appellants submit that Chadwick is not suited for incorporating the advantage of relative pointers of the Appellants' claimed invention as Chadwick stores essence, metadata and UMID/location information in different and separate storage structures which requires pointing information to be absolute.

With more specificity and in response to a Final Office Action, the Appellants argue that what is disclosed by Chadwick is the Key, Length, Value (KLV) coding scheme where each KLV object includes "a length field indicating a length of a value". That is, "the length field indicates the data length of the value". What data may be contained in the data field is specified by Chadwick only as so far as that "the value **84** [is] for the type of content indicated by the key" wherein the key is as specified in the SMPTE Metadata dictionary, e.g. UMID. The Appellants submit, however, that UMID, as taught in Chadwick, is no value indicative of a container length but an identifier allowing for universally identifying media.

The Appellants already pointed out that Chadwick describes universal media identifier (UMID)/location table providing location of essence wherein fields in the UMID/location table include a key column comprising the UMID and location fields **indicating the location universally,** i.e., by a Universal Resource Locator (URL) or a Universal Resource Identifier (URI). However, that is not what is being taught and claimed by the invention of the Appellants.

In contrast to the teachings of Chadwick, the Appellants teach and claim, at least in part, KLV back-pointer items recorded in the following of preceding data containers of variable length and allowing for quick access to said preceding data

containers. That is, in the invention of the Appellants, as taught and claimed by recording KLV back-pointer items behind preceding data containers, the invention of the Appellants allow for back-pointing by enablement of at least the claimed technical feature of, "recording a value indicative of the container length of the preceding data container", of claim 1 which results in a very compact relative representation of the back-pointer compared to universal location indication as taught in Chadwick.

The Appellants submit that Chadwick is not suited for incorporating exploitation of this advantage of relative pointers as, in contrast to the invention of the Appellants, Chadwick teaches storing essence, metadata and UMID/location information in different and separate storage structures. The Appellants would like to emphasize once more the argument that according to Chadwick, the key is a unique 16 byte universal label **specified in the SMPTE Metadata dictionary**. For additional details of KLV metadata Chadwick refers to the publication entitled "Material Exchange Format (MXF): MXF Generic Container Format (Proposed SMPTE Standard)", filename: mxf7b-p5-b1-gc.doc (Jul. 30, 2001) and the "Material Exchange Format (MXF): Format Specification (Proposed SMPTE Standard)" (Chadwick: col. 3, l. 60-62, and col. 3, l. 65 – col. 4, l. 5). Chadwick remains silent regarding any extension of key specification beyond the SMPTE Metadata dictionary. Instead, definition of metadata objects according to SMPTE dictionary is also stressed by Chadwick in col. 8, l. 54-56.

However, the Appellants submit that at the time the Appellants' invention was conceived, the SMPTE Metadata dictionary did not specify any unique 16 byte universal label indicative of any pointer, particularly no label or

"key indicative of a back-pointer",

as taught in the Appellants' Specification and claimed by at least the Appellants' claim 1, was specified by the SMPTE Metadata dictionary. The Appellants further submit that none of the publications referred to by Chadwick specify any such pointer, particularly no back-pointer, indicating key as taught in the Appellants' Specification and claimed by at least the Appellants' claim 1.

Therefore, the Appellants submit that the technical features of the Appellants' claimed invention, and specifically at least the Appellants' claim 1, which are not mentioned by Chadwick cannot be suggested by Chadwick alone or in view of common knowledge, which renders the Appellants' invention, at least as claimed in claim 1, novel and non-obvious over Chadwick even in view of common knowledge. More specifically, the Appellants submit that Chadwick absolutely fails to teach each and every element of the claimed invention, arranged as in the claim as required for anticipation.

Therefore, the Appellants submit that for at least the reasons recited above, the Appellants' claim 1 is not anticipated by the teachings of Chadwick and, as such, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

B. 35 U.S.C. § 102(e) - Claim 2

Claim 2 depends directly from independent claim 1 and recites further technical features thereof. At least because the teachings of Chadwick fail to teach or anticipate the invention of the Appellants with regard to at least the Appellants' independent claim 1, the Appellants respectfully submit that dependent claim 2 is also not anticipated and is allowable for at least the reasons stated above with respect to independent claim 1. The Appellants further submit that the teachings of Chadwick also fail to teach or anticipate the Appellants' claim 1 further limited by, "recording the length indicator", as recited in claim 2.

That is, and for at least the same reasons provided in Section A above, at least because Chadwick fails to teach or anticipate at least a method and apparatus for recording or retrieving data including at least "a key indicative of a back-pointer" and "a value indicative of the container length", as taught in the Appellants' Specification and as claimed by at least the Appellants' claim 1, the Appellants respectfully submit that Chadwick also fails to teach or anticipate the Appellants' invention as claimed in dependent claim 2, which depends directly from independent claim 1.

Therefore, the Appellants submit that claim 2, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

C. 35 U.S.C. § 102(e) - Claim 3

Claim 3 depends directly from dependent claim 2 and indirectly from independent claim 1 and recites further technical features thereof. At least because the teachings of Chadwick fail to teach or anticipate the invention of the Appellants with regard to at least the Appellants' independent claim 1 and dependent claim 2, the Appellants respectfully submit that dependent claim 3 is also not anticipated and is allowable for at least the reasons stated above with respect to independent claim 1 and dependent claim 2. The Appellants further submit that the teachings of Chadwick also fail to teach or anticipate the Appellants' claims 1 and 2 further limited by, "recording the key indicative of a back-pointer", as recited in claim 3.

That is, and for at least the same reasons provided in Sections A and B above, at least because Chadwick fails to teach or anticipate at least a method and apparatus for recording or retrieving data including at least "a key indicative of a back-pointer" and "a value indicative of the container length", as taught in the Appellants' Specification and as claimed by at least the Appellants' claims 1 and 2, the Appellants respectfully submit that Chadwick also fails to teach or anticipate the Appellants' invention as claimed in dependent claim 3, which depends directly from dependent claim 2 and indirectly form independent claim 1.

Therefore, the Appellants submit that claim 3, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

D. 35 U.S.C. § 102(e) - Claim 4

Claim 4 is an independent claim that claims similar relevant features as independent claim 1. More specifically, independent claim 4 claims a method for retrieving sets of data on a medium in an order opposite to the recording order including accessing a first set of data, accessing a key indicative of a back-pointer, reading a value indicative of a container length, and accessing a second set of data using said value. As such, the Appellants respectfully submit that independent claim 4 is also not anticipated by the teachings of Chadwick and is allowable for at least the reasons stated above with respect to independent claim 1.

That is, and for at least the same reasons provided in Section A above, at least because Chadwick fails to teach or anticipate at least a method and apparatus for recording or retrieving data including at least "a key indicative of a back-pointer"

and "a value indicative of the container length", as taught in the Appellants' Specification and as claimed by at least the Appellants' claim 1, the Appellants respectfully submit that Chadwick also fails to teach or anticipate the Appellants' invention as claimed in independent claim 4, which claims similar relevant features as independent claim 1.

Therefore, the Appellants submit that claim 4, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

E. 35 U.S.C. § 102(e) - Claim 5

Claim 5 depends directly from independent claim 4 and recites further technical features thereof. At least because the teachings of Chadwick fail to teach or anticipate the invention of the Appellants with regard to at least the Appellants' independent claim 4, the Appellants respectfully submit that dependent claim 5 is also not anticipated and is allowable for at least the reasons stated above with respect to independent claim 4. The Appellants further submit that the teachings of Chadwick also fail to teach or anticipate the Appellants' claim 4 further limited by, "wherein the sets of data are key-length-value (KLV) encoded", as recited in claim 5.

That is, and for at least the same reasons provided in Section A and D above, at least because Chadwick fails to teach or anticipate at least a method and apparatus for recording or retrieving data including at least "a key indicative of a back-pointer" and "a value indicative of the container length", as taught in the Appellants' Specification and as claimed by at least the Appellants' claims 1 and 4, the Appellants respectfully submit that Chadwick also fails to teach or anticipate the Appellants' invention as claimed in dependent claim 5, which depends directly from independent claim 4.

Therefore, the Appellants submit that claim 5, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

F. 35 U.S.C. § 102(e) - Claim 6

Claim 6 is an independent claim that claims similar relevant features as independent claims 1 and 4. More specifically, independent claim 6 claims a data file comprising successive blocks, each block including a data container having a container length, a back-pointer key, a length indicator and a value indicative of the

container length. As such, the Appellants respectfully submit that independent claim 6 is also not anticipated by the teachings of Chadwick and is allowable for at least the reasons stated above with respect to independent claims 1 and 4.

That is, and for at least the same reasons provided in Sections A and D above, at least because Chadwick fails to teach or anticipate at least a method and apparatus for recording or retrieving data including at least "a key indicative of a back-pointer" and "a value indicative of the container length", as taught in the Appellants' Specification and as claimed by at least the Appellants' claims 1 and 4, the Appellants respectfully submit that Chadwick also fails to teach or anticipate the Appellants' invention as claimed in independent claim 6, which claims similar relevant features as independent claims 1 and 4.

Therefore, the Appellants submit that claim 6, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

G. 35 U.S.C. § 102(e) - Claim 7

Claim 7 is an independent claim that claims similar relevant features as independent claims 1, 4 and 6. More specifically, independent claim 7 claims a medium carrying a data file according to claim 6 which comprises successive blocks, each block including a data container having a container length, a back-pointer key, a length indicator and a value indicative of the container length. As such, the Appellants respectfully submit that independent claim 7 is also not anticipated by the teachings of Chadwick and is allowable for at least the reasons stated above with respect to independent claims 1, 4 and 6.

That is, and for at least the same reasons provided in Sections A, D and F above, at least because Chadwick fails to teach or anticipate at least a method and apparatus for recording or retrieving data including at least "a key indicative of a back-pointer" and "a value indicative of the container length", as taught in the Appellants' Specification and as claimed by at least the Appellants' claims 1, 4 and 6, the Appellants respectfully submit that Chadwick also fails to teach or anticipate the Appellants' invention as claimed in independent claim 7, which claims similar relevant features as independent claims 1, 4 and 6.

Therefore, the Appellants submit that claim 7, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

H. 35 U.S.C. § 102(e) - Claim 8

Claim 8 is an independent claim that claims similar relevant features as independent claims 1, 4, 6 and 7. More specifically, independent claim 8 claims a data structure including a data container, a back-pointer key, a length indicator and a value indicative of the length of the data container. As such, the Appellants respectfully submit that independent claim 8 is also not anticipated by the teachings of Chadwick and is allowable for at least the reasons stated above with respect to independent claims 1, 4, 6 and 7.

That is, and for at least the same reasons provided in Sections A, D, F and G above, at least because Chadwick fails to teach or anticipate at least a method and apparatus for recording or retrieving data including at least "a key indicative of a back-pointer" and "a value indicative of the container length", as taught in the Appellants' Specification and as claimed by at least the Appellants' claims 1, 4, 6 and 7, the Appellants respectfully submit that Chadwick also fails to teach or anticipate the Appellants' invention as claimed in independent claim 8, which claims similar relevant features as independent claims 1, 4, 6 and 7.

Therefore, the Appellants submit that claim 8, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

I. 35 U.S.C. § 102(e) - Claim 9

Claim 9 depends directly from independent claim 8 and recites further technical features thereof. At least because the teachings of Chadwick fail to teach or anticipate the invention of the Appellants with regard to at least the Appellants' independent claim 8, the Appellants respectfully submit that dependent claim 9 is also not anticipated and is allowable for at least the reasons stated above with respect to independent claim 8. The Appellants further submit that the teachings of Chadwick also fail to teach or anticipate the Appellants' claim 8 further limited by, "further having the length indicator", as recited in claim 9.

That is, and for at least the same reasons provided in Section H above, at least because Chadwick fails to teach or anticipate at least a method and apparatus for recording or retrieving data including at least "a key indicative of a back-pointer" and "a value indicative of the container length", as taught in the Appellants' Specification and as claimed by at least the Appellants' claim 8, the Appellants respectfully submit that Chadwick also fails to teach or anticipate the Appellants' invention as claimed in dependent claim 9, which depends directly from independent claim 8.

Therefore, the Appellants submit that claim 9, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

J. 35 U.S.C. § 102(e) - Claim 10

Claim 10 depends directly from dependent claim 9 and indirectly from independent claim 8 and recites further technical features thereof. At least because the teachings of Chadwick fail to teach or anticipate the invention of the Appellants with regard to at least the Appellants' independent claim 8 and dependent claim 9, the Appellants respectfully submit that dependent claim 10 is also not anticipated and is allowable for at least the reasons stated above with respect to independent claim 8 and dependent claim 9. The Appellants further submit that the teachings of Chadwick also fail to teach or anticipate the Appellants' claims 8 and 9 further limited by, "having the back-pointer key", as recited in claim 10.

That is, and for at least the same reasons provided in Sections H and I above, at least because Chadwick fails to teach or anticipate at least a method and apparatus for recording or retrieving data including at least "a key indicative of a back-pointer" and "a value indicative of the container length", as taught in the Appellants' Specification and as claimed by at least the Appellants' claims 8 and 9, the Appellants respectfully submit that Chadwick also fails to teach or anticipate the Appellants' invention as claimed in dependent claim 10, which depends directly from dependent claim 9 and indirectly form independent claim 8.

Therefore, the Appellants submit that claim 10, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

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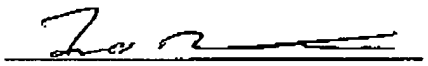
Conclusion

Thus, the Appellants submit that none of the claims presently in the application are anticipated under the provisions of 35 U.S.C. § 102. Consequently, the Appellants believe all these claims are presently in condition for allowance.

For at least the reasons advanced above, the Appellants respectfully urge that the rejection of claims 1-18 as being obvious under 35 U.S.C. §102 are improper. Reversal of the rejections in this Appeal is respectfully requested.

Respectfully submitted,
Nicolaas Damstra et al.

By: 

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CLAIMS APPENDIX

1. (Previously Presented) Method for recording data, comprising the steps of:
   - recording a data container having a given container length;
   - recording a key indicative of a back-pointer;
   - recording a length indicator; and
   - recording a value indicative of the container length.

2. (Original) Method according to claim 1, with the further step of:
   - recording the length indicator.

3. (Original) Method according to claim 2, with the further step of:
   - recording the key indicative of the back-pointer.

4. (Previously Presented) Method for retrieving sets of data on a medium in an order opposite to the recording order, comprising the steps of:
   - accessing a first set of data;
   - accessing a key indicative of a back-pointer;
   - reading a value indicative of a container length; and
   - accessing a second set of data using said value.

5. (Previously Presented) Method according to claim 4, wherein the sets of data are key-length-value (KLV) encoded.

6. (Previously Presented) Data file comprising successive blocks, each block comprising:
   - a data container having a container length;
   - a back-pointer key;
   - a length indicator; and
   - a value indicative of the container length.

7. (Original) Medium carrying a data file according to claim 6.

8. (Previously Presented) Data structure comprising:

- a data container;
- a back-pointer key;
- a length indicator; and
- a value indicative of the length of the data container.

9. (Original) Data structure according to claim 8, further having:

- the length indicator.

10. (Original) Data structure according to claim 9, further having:

- the back-pointer key.

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EVIDENCE APPENDIX

Appellants assert that there is no evidence to be submitted in accordance with this section.

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RELATED PROCEEDINGS APPENDIX

Appellants assert that there are no copies of decisions to be submitted in accordance with this section.